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(54) Title: MINIMIZING METAL TOXICITY DURING ELECTROPORATION ENHANCED DELIVERY OF POLYNUCLEOTIDES

(57) Abstract: Methods are provided for introducing a polynucleotide into healthy tissue and generating a pulsed electric field in the tissue via invasive electrodes, resulting in enhanced delivery of the polynucleotide into cells of the tissue, while minimizing local side effects to the electroporated tissue and systemic side effects to the electroporated organism due to metal contaminants released from said electrodes. In one embodiment, the invention methods use electrodes of gold, gold alloys or other metal that minimize the introduction of toxic amounts of the metal into electroporated tissue. In other embodiments, the invention methods are utilized for the gene therapy by administering DNA to cells of suitable target tissue, and for the induction of an immune response by administration of a DNA vaccine.